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GOSSIP-BASED RELIABLE MULTICAST MESSAGE RECOVERY SYSTEM AND METHOD

ABSTRACT OF THE DISCLOSURE

A group-based multicast messaging system implementing dedicated logger member for logging all multicast messages sent in the system, and a reliable recovery method for missing messages. reliable recovery method includes soliciting retransmissions of fresh missing messages to other group members and soliciting of retransmissions of stale missing messages to logger members of the group. One of the loggers or other group members repairs the missing message to thereby ensure reliable delivery of messages in the multicast messaging system. The soliciting of retransmissions makes use of negative gossips for fresh missing messages in the system, with the system implementing a mechanism for propagating the latest state information of members to enable garbage collection of archived messages at logging servers in the Further, employed is a selective hashing technique to further reduce control traffic and a relaxed group membership protocol for tracking multicast group membership.